

AMENDMENT TO THE CLAIMS

This listing of claims will replace all prior versions of claims in the application.

1. (Original) An antenna array, comprising a fractile array having a plurality of antenna elements uniformly distributed along a Peano-Gosper curve.
2. (Original) An antenna array comprising an array having an irregular boundary contour, wherein the irregular boundary contour comprises a plane tiled by a plurality of fractiles, said plurality of fractiles covers the plane without any gaps or overlaps.
3. (Original) A method for generating an antenna array having improved broadband performance, comprising the steps of:
 - tiling a plane with a plurality of non-uniform shaped unit cells of an antenna array;
 - optimizing the non-uniform shape of the unit cells; and
 - optimizing the tiling of said unit cells.
4. (Original) The method of claim 3, wherein the optimizing further comprises at least one of a genetic algorithm or a particle swarm optimization.
5. (Currently Amended) A method for rapid radiation pattern formation of a fractile array wherein a fractile array comprises an array having an irregular boundary contour, wherein the irregular boundary contour comprises a plane tiled by a plurality of fractiles, said plurality of fractiles covers the plane without any gaps or overlaps, comprising the steps of:
 - a) employing a pattern multiplication for fractile arrays, comprising:
 - deriving a product formulation for the radiation pattern of a fractile array for a desired stage of growth;
 - b) recursively applying step (a) to construct higher order fractile arrays; and
 - c) forming an antenna array based on the results of step (b).

6. (Original) A method for rapid radiation pattern formation of a Peano-Gosper fractile array, comprising the steps of:

- a) employing a pattern multiplication for fractile arrays, comprising:
 - deriving a product formulation for the radiation pattern of a fractile array for a desired stage of growth;
- b) recursively applying step (a) to construct higher order fractile arrays; and
- c) forming an antenna array based on the results of step (b).